State of California • State and Consumer Services Agency • Gray Davis, Governor
DEPARTMENT OF GENERAL SERVICES
Executive Office • 1325 J Street, Suite 1910 • Sacramento, California 95814-2928

March 30, 2001

Mr. Bion Gregory
Legislative Counsel
State Capitol, Room 3021, B-30
Sacramento, CA 95814

Dear Mr. Gregory:

Attached is the Annual Report to the Legislature on State Telecommunications as required by Government Code Section 15277.

If you have any questions or require additional information, please contact Barry R. Hemphill, Deputy Directory, Telecommunications Division, Department of General Services, at (916) 657-9428.

Very truly yours,

Barry D. Keene, Director
Department of General Services

BDK:BRH:CLS:GG:RH:mm/Gfrench\divreports\Legislative Annual Report

Attachment

cc: See attached distribution list #2
Barry R. Hemphill, Deputy Director, Telecommunications Division, Department of General Services

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Secretary of the Senate
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LEGISLATURE--REVISED 06/28/00

ANNUAL REPORT TO THE LEGISLATURE

ON

STATE TELECOMMUNICATIONS

SUBMITTED

BY THE

DEPARTMENT OF GENERAL SERVICES

MARCH, 2001

The Department of General Services (DGS) Telecommunications Division (TD) is required by Government Code Section 15277 to submit an annual report to the Legislature. The report contains "…actions taken by the department to plan and advocate the most advantageous use of telecommunications technology in state government operations and efforts to reduce costs."

The TD was created in 1947 by the California Communications Act. Government Code Sections 14931 through 14931.1 and 15250 through 15279 confer its authority. The TD administers telecommunications systems services including planning, acquisition, installation, maintenance, and related activities to support state government and various other agencies throughout California. "Telecommunications," as used in this report, refers to the transmission of information by electronic means including telephone, data, radio, microwave, lightwave, video, and facsimile. Additionally, Government Code Section 53100 et seq., the Warren 9-1-1 Emergency Assistance Act, confers authority to the TD for administering California's Emergency Telephone Number (9-1-1) Program.

The TD's established mission is to ensure that quality telecommunications services and commodities are provided to all state agencies in the most cost-effective, efficient, and timely manner possible. This includes maximizing the use of state resources through consolidation and joint use of telecommunications systems and services where operationally, technically, and economically feasible.

PUBLIC-SAFETY RADIO INTEGRATED SYSTEM MANAGEMENT (PRISM)

The Public-Safety Radio Integrated Systems Management (PRISM) program is a shared public safety radio system to be implemented by 2015. This will significantly enhance the efficiency of state, local, and federal agencies' operations by providing interoperability that allows them to communicate between groups when responding to emergencies, such as those brought about by natural disasters. Examples include earthquakes, floods, and forest fires.

California's public safety agencies provide law enforcement, fire protection, emergency response, transportation management, flood control, detention, rehabilitation, and other public services to nearly 36 million residents and over 44 million visitors each year. These agencies operate and maintain largely independent radio systems to accomplish their missions. In today's telecommunications environment, lack of interoperability, channel congestion, aging equipment and limited functionality is crippling the usability of these public safety systems. Additionally, recent changes in technology and federal rules and regulations regarding radio services and spectrum availability are seriously impacting radio systems the state utilizes in its daily operations.

In March 1996, the Director of the DGS formally established the Public Safety Radio Strategic Planning Committee. This Committee was instructed to work with the TD's Office of Public Safety Radio Services in developing a strategic plan that addresses these critical issues as well as enhancing the public safety community's ability to successfully carry out its mission.

In response to that order, the TD established a specific unit to facilitate this project under the Strategic Planning Section in conjunction with representatives from the original ten major state public safety agencies including:

Department of Transportation
Department of Fish and Game
Department of Corrections
Department of Forestry and Fire Protection
Department of Parks and Recreation
Department of the Youth Authority
Department of Justice
Department of Water Resources
California Highway Patrol
Governor's Office of Emergency Services

During 2000, the Emergency Services Medical Authority (EMSA) was added to the participating agencies. EMSA brings emergency medical providers, such as public and private ambulance and EMT services, into the project. This complements the law enforcement and fire services that are currently participants in the project.

The Public Safety Radio Strategic Planning Committee prepared and released *Partnering for the Future: A Strategic Plan for California's Public Safety Radio Communications* in January 1997. This strategic plan describes the need to improve public safety radio systems, provides an overview of various alternatives for the future, and outlines a process to implement the plan over a 15-year period.

In April 1999, the committee released *Partnering for the Future, Cost Benefit Analysis for California's Public Safety Radio Communications Project* (CBA). The CBA reviews the alternatives available to the state for improved radio communications and interoperability, reviews the costs associated with each alternative, and selects a shared hybrid system utilizing UHF and VHF spectrum and trunking technology to meet the state's needs.

The Committee is working on two tactical actions to implement the direction outlined in the strategic plan:

1. The Spectrum Acquisition Subcommittee is developing a plan to demonstrate to the Federal Communications Commission (FCC) that the State of California has a compelling need for additional frequencies to take advantage of new technologies and serve the needs of the public. The TD is working with the regional planning committees established by the FCC to secure the necessary spectrum. In addition, the FCC has granted each state 2.4 MHz of spectrum in the new 700 MHz band for the exclusive use by the state. For California to receive this spectrum, the Governor must submit a letter to the FCC by December 31, 2001, outlining our plan for the use of the spectrum.

2. The Pilot Project Subcommittee was established to determine if a pilot project concept should be utilized to validate the assumptions and recommendations of the strategic plan. The Subcommittee validated that assumption and, after looking at

several alternatives, determined that the Sacramento region of California provides an excellent location to perform the pilot project. The Steering Committee approved pursuing this area as the pilot area. The DGS received $1.8 million for the 2000-01 fiscal year and will receive $1.6 million for the 2001-02 fiscal year for the design and engineering work necessary to validate the plan assumptions and to take the next step in the pilot project process.

The strategic direction set forth by the Public Safety Radio Strategic Planning Committee establishes a model for partnership in public safety communications that not only will satisfy today's unmet requirements, but will also prepare California to respond to increasing service demands in the future. The strategic plan ultimately will provide a means to successfully carry all state public safety agencies well into the 21st century.

In addition, California is closely following issues pending before the FCC that would provide radio spectrum relief in the 746 MHz to 806 MHz frequency range for public safety radio services. The release of this new spectrum is a key element in the overall plan to implement a statewide, interoperable radio system to meet the needs of state agencies over the next 15 years as well as to provide a platform for interoperability with local and federal public safety agencies.

If the pilot is successful, a multibillion-dollar project to construct a statewide, integrated system facilitating interagency communications will follow.

PUBLIC SAFETY MICROWAVE NETWORK CONVERSION

California's Public Safety Microwave Network (PSMN) is one of the largest public safety microwave networks in the world. The system covers more than 6,000 path miles, contains over 300 sites, and encompasses ten primary routes. It is available to all public safety agencies throughout the state including law enforcement, fire, special emergency, highway maintenance, forestry and conservation, and public services agencies.

In order to provide enhanced capabilities to user agencies, the DGS embarked on an analog-to-digital upgrade for this system. Work on this project began in fiscal year 1993-94, and initial time estimates projected completion in fiscal year 2003-04. A report to the Legislature, delivered on November 29, 1995, provided an overview of the conversion plan along with a program schedule and cost analysis. That report, subsequently approved by the Legislature, stated the conversion was progressing on schedule and within budget.

To accomplish the microwave system conversion, a number of alternative technologies were considered, including satellite communications systems, utilization of Synchronous Optical Network (SONET) technologies, and exclusive use of commercially leased lines. A study of each of these alternatives confirmed that converting the PSMN from analog to digital technology more efficiently fulfills the requirements of user agencies and more readily accommodates potential mandates regarding the efficient use of radio spectrum.

The total cost of this program was originally estimated at $90 million. The cost allocation methodology initially developed and implemented by the DGS continues to be the

preferred approach, and it is anticipated that project costs will remain within the original estimate. In line with the time frame developed in fiscal year 1994-95, this program continues on schedule with completion expected to occur during fiscal year 2003-04.

In December 1999, the TD submitted a status report to the Legislature summarizing the efforts expended and progress made on the PSMN project.

The DGS is confident that this analog-to-digital upgrade will provide its customers with the wide-area digital network services they require in today's telecommunications environment as well as into the foreseeable future.

PUBLIC SAFETY MICROWAVE NETWORK--RADIO VAULT AND TOWER CONSOLIDATION FEASIBILITY REPORT

In the Supplemental Report for the 2000 Budget Act, Item 1760-001-0666, #4, the Legislature requested a report that examines the feasibility of consolidating operation, construction, and maintenance of all state owned radio vaults and towers within the Department of General Services (DGS). A radio vault is a facility specifically designed and built to house telecommunications equipment. Part of the feasibility study will determine if all costs, including the creation of a sinking fund for capitalization of future vaults and towers, should be recovered in the telecommunications rate structure. This study will address the feasibility of a program where maintenance and operations costs, as well as future vault and tower capital outlay projects, will be centralized in the DGS' Service Revolving Fund with costs allocated to user agencies on a rational basis.

CALIFORNIA INTEGRATED INFORMATION NETWORK (CIIN)

During the conversion of the California Integrated Information Network (CIIN), the state experienced severe outages with frame relay services. Because of the magnitude and impact to major data center customers, alternative backup services were obtained for critical circuits and sites. Concurrent with this action, the development of design architecture for both an interim and final replacement frame relay network was initiated. Design architecture for the replacement frame relay network is completed. Migration began in October 2000 with expected completion in March 2002. Moreover, the CIIN contract includes provisions for an annual review to evaluate contract components, performance, and service levels.

The first annual review commenced in March 2000. The first phase of the review focused on data service level agreements, including those of frame relay services. The state and the contractors, Pacific Bell and MCI WorldCom, have agreed to enhanced service level agreements scheduled for implementation in March 2001. The second phase of the annual service review is scheduled to commence in April 2001 and will address other contractual requirements.

Notwithstanding the service problems encountered with the frame relay network, the CIIN contract incorporates the state's past environment of independent, heterogeneous, state-owned, telecommunications networks with an integrated, flexible, and efficient

statewide multifunction service. While this service relies to the greatest extent feasible on a Pacific Bell and MCI WorldCom-owned and operated infrastructure and the competitive acquisition of management, operations, and service delivery, the TD, together with the Department of Information Technology (DOIT), consider other telecommunications service options in order to ensure state agency business objectives are met.

INTERNET STATE TELEPHONE DIRECTORY

The Governor's Office for Innovation in California, in conjunction with the Department of Information Technology and various other state departments, has developed an E-Government Blueprint for California. The new California web portal, including initial applications that bring government closer to the public it serves, was announced at the Governor's State of the State address.

The TD is submitting for inclusion in this program its Online State Phone Directory project that is being developed to provide Internet access to State Telephone Directory information via a web accessible solution. The on-line directory is designed to improve access to government information and services for state employees, local government, and the general public.

Using the concept of an "enterprise" telephone directory, the scope of the project examines basic telephone directory applications, interfaced e-mail systems, delegated administration, self-service, authentication, authorization, access policies, and single sign-on. The project consists of multiple phases and is currently in its initial phase.

PAYPHONE MASTER CONTRACT

The TD manages a statewide Pay Telephone Master Contract for concession services. There are 10,382 pay telephones with over 156 participating agencies (state and local government). Payphone revenues under the Master Contract for fiscal year 1999-2000 exceeded $36 million. Of this amount, $33 million went to the state General Fund.

An RFP for a contract to replace the expiring contract was released in September 1998. There was discussion and concern about the high rates charged to parties receiving collect calls from inmates. The RFP did not focus on a reduction in rates and sur-charges, and it was subsequently cancelled in July 2000.

A new Payphone RFP was released in January 2001 with the major focus on reducing inmate rates and surcharges while maintaining a fixed ($26 million) revenue commitment to the General Fund. This contract will include equipment installation in 33 institutions and 38 correctional camps and public payphone locations located on state and local government agency properties. Complete conversion is expected to take 24 to 36 months. The new contract is expected to be awarded in May 2001.

9-1-1 PROGRAM

The TD, in concert with all public safety agencies in the state, is dedicated to providing its citizens with the best emergency services possible. With a population approaching 36 million, the functionality of 9-1-1 in this state is imperative. The 9-1-1 Program goal is to enable Public Safety Answering Points (PSAPs) to provide the fastest, most reliable, cost-effective telephone access to emergency service for all 9-1-1 callers in California.

In 1968, the telephone industry adopted 9-1-1 as the nationwide emergency number. It is a simple means to provide an easy-to-remember, universal number for the public to use when requesting emergency services. In 1972, the Warren 9-1-1 Emergency Assistance Act mandated implementation of a statewide 9-1-1 program.

In December 1985, after a large scale and highly focused effort by all telephone companies, all emergency response agencies in the state, and the 9-1-1 Program, universal 9-1-1 service in California was established. With this "basic" program, emergency services could be accessed statewide from every telephone by dialing 9-1-1. Then, in January 1993, California achieved another milestone by completing the implementation of statewide "enhanced" 9-1-1 (E9-1-1) service. This is a significant upgrade to 9-1-1. For example, when an E9-1-1 call is received, it provides telephone number and address identification along with proper call routing.

The 9-1-1 Program Office administers California's statewide 9-1-1 program pursuant to Government Code Sections 53100 et seq. This includes system compliance evaluation, in addition to reviewing, approving, and reimbursing PSAPs for necessary and reasonable costs associated with the planning, implementation, and maintenance of a state approved 9-1-1 system. In accordance with law, the 9-1-1 Program Office monitors all emergency telephone systems to ensure compliance with operational and technical standards as established by California. Foreign language translation services also are furnished through a state-provided service contract. Access to these services is via a conference call on toll-free "800" telephone numbers.

Currently, there are approximately 500 PSAPs established statewide. While administering a budget in excess of $90 million, the 9-1-1 Program continues to work toward expanding California's 9-1-1 systems to include rapidly developing, innovative telecommunications technologies such as wireless E9-1-1 calling for cellular systems.

9-1-1 WIRELESS ENHANCEMENT

Recent changes in FCC Order 94-102 allow the 9-1-1 Program Office, through its 9-1-1 strategic planning process, to make significant improvements in wireless 9-1-1 call handling. FCC 94-102 now requires wireless carriers to provide the telephone number and precise location for subscribers who dial 9-1-1 (also known as "Wireless E9-1-1) as soon as October 2001. A recent change in this order shifted the primary funding obligation from the PSAPs to the wireless carriers. However, the order applies to wireless carriers only if PSAPs request the service and possess the telephone equipment needed to make use of the information to be provided. The preparation of the 9-1-1 network infrastructure to accept wireless E9-1-1 is the responsibility of the 9-1-1

Program Office working in close cooperation with public safety agencies, wireline, and wireless carriers.

Unlike calls made from residential and commercial wired telephones, wireless telephones do not currently provide the telephone number or location of the caller. Additionally, significant problems result from call spikes that occur whenever there are problems on major thoroughfares. These problems, which could be as minor as a stalled vehicle, occur every day on California roadways and result in 9-1-1 calls getting delayed for up to several minutes before being answered.

Identifying the precise location of wireless 9-1-1 callers will help solve some of California's most pressing 9-1-1 problems. Once a wireless caller's location is pinpointed, 9-1-1 calls can be routed through the 9-1-1 network in a way that minimizes wait times for callers who are most at risk. For example, calls originating from freeways would continue to be routed to the California Highway Patrol (CHP) call centers, whereas other calls could be routed to local PSAPs that are less likely to be affected by sudden, heavy call volumes.

Prior to January 1, 2001, all wireless 9-1-1 calls were required by law to be routed to the CHP. Assembly Bill 1263 of 1999 (Chapter 981), authored by Helen Thomson and sponsored by the DGS, changed the law so that wireless 9-1-1 calls now can be directly routed to PSAPs other than the CHP.

In addition to upgrades required by FCC 94-102, the 9-1-1 Program Office is evaluating the feasibility of implementing new technologies and 9-1-1 system designs to facilitate load sharing for wireless and wireline 9-1-1 calls. Efficient load sharing will result in calls being off-loaded from overloaded PSAPs during peak periods to other less busy PSAPs. If designed correctly, load sharing, in conjunction with the precise location information required by FCC 94-102, should effectively solve the major wireless 9-1-1 problems that exist in California today.

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